

ISLAND

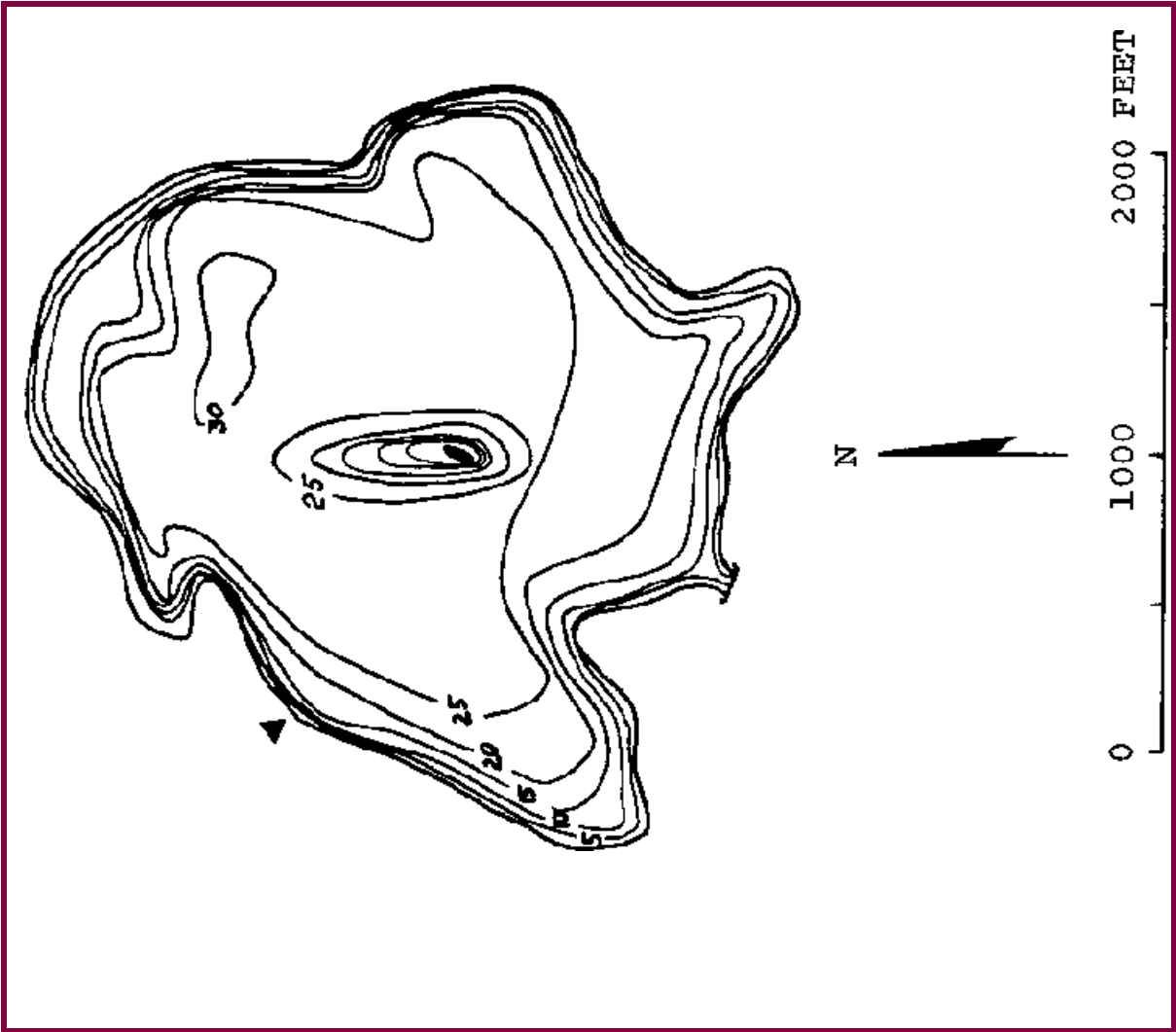
MASON County

Lake ID: ISLMA1

Ecoregion: 2

Island Lake is located 2.5 miles north of Shelton. It drains via a swamp to Goldsborough Creek and Oakland Bay.

<i>Area (acres)</i>	<i>Maximum Depth (ft)</i>	<i>Mean Depth (ft)</i>	<i>Drainage (sq mi)</i>	
108	31	21		
<i>Volume (ac-ft)</i>	<i>Shoreline (miles)</i>	<i>Altitude (ft abv msl)</i>	<i>Latitude</i>	<i>Longitude</i>
2246	1.74	230	47 14 44.	123 06 40.



## ISLMA1

# Trophic State Assessment for 1998

TSI_Secchi:	36
TSI_Phos:	35
TSI_Chlor:	43
Narrative TSI: <sup>a</sup>	O

We recommend that a nutrient criterion be set at 10 ug/L total phosphorus, the action value for Puget Lowland oligotrophic lakes.

<sup>a</sup> E=eutrophic, ME=mesoeutrophic, M=mesotrophic, OM=oligomesotrophic, O=oligotrophic

## ISLAND

Date	Time	Strata	Tot P (ug/L)	Tot N (mg/L)	TN:TP	Chloro- phyll (ug/L)	Fecal Col. Bacteria (#/100mL)	Hardness (mg/L)	Calcium (ug/L)	Turbidity (NTU)
<b>Station 1</b>										
6/2/1998		E	8.7	.216	25	3.7		18.5	4460	.8
7/25/1998		E	5.2	.199	38	3.4				.7 J
8/17/1998		E	9.6	.199	21	4.2				.9
9/17/1998		E	8.7	.193	22	2.5				.8
<b>Station 2</b>										
6/2/1998		E	9.6	.191	20	2.6				
7/25/1998		E	10.1	.178	18	3				
8/17/1998		E	9.2	.18	20	4.4				
<b>Station 3</b>										

6/2/1998	L	1
	L	1
9/17/1998	L	3
	L	1

Strata: L=lake surface, E=epilimnion, H=hypolimnion; Qualifier: J=Estimate, U=Less than

## Watershed Survey

ISLAND

Survey Date: 9/17/1998

### Land Uses (1 = Primary, 2 = Secondary, etc.)

☐ Agriculture (commercial, not hobby)

☐ 1 Residential

☐ Commercial, Industrial

☐ 2 Park, forest or natural

☐ 3 Major transportation

Impervious surfaces (Roads and parking area): No Curbs

### Observations (check mark denotes presence)

BMP's ☐

Lack of shoreline erosion control where a new home was being built.

Odors ☐

Cattle ☐ Ducks ☐ Geese ☐

Fertilizers and weed killers appear to be used in residential or agriculture area ☒

Lots of green lawns/landscaping on lakeshore properties.

Buffer zones around streams and wetlands ☐

Buffer zones absent on lakeshore property. Forrested areas appeared OK. Natural vegetation was rare.

Irrigation ☒

2 separate locations

Survey Id:

## Habitat Survey Summary Report

ISLAND

Data are averages of 10 Stations Surveyed

Date of Visit: 7/9/1998

### Vegetation Type (Avg. only of sites w/ vegetation present; 1=coniferous, 3=deciduous)

Canopy Layer Avg:

Number of stations with canopy:

0

Understory Avg:

Number of stations with understory:

0

Percent Areal Coverage (0 = absent, 1 = <10%, 2 = 10-40%, 3 = 40-75%, 4 = >75%)

<b>Canopy Layer:</b>	trees > 0.3 m DBH	1.7
	trees < 0.3 m DBH	0.6
<b>Understory:</b>	woody shrubs saplings	1.9
	tall herbs, forbs grasses	0.7
<b>Ground Cover:</b>	woody shrubs seedlings	0.9
	herbs, forbs, grasses	2.1
	standing water or inundated veg	0.6
	barren or buildings	1.5
<b>Substrate Type (within shoreline plot):</b>	bedrock	0.0
	boulders	0.0
	cobble/gravel	1.5
	loose sand	0.4
	other fine soil/sediment	0.5
	vegetated	2.8
	other	0.8
<b>Bank Features:</b>	angle (0:<30; 1: 30-75; 2:nr vertical)	
	vertical dist (M from wtrln to high wt):	0.1
	horiz. dist. (M from wtrln to high wt):	0.1

#### **Human Influence (0 = absent, 1 = adjacent to or behind plot, 2 = present within plot)**

buildings	1.2
commercial	0.0
park facilities	0.0
docks/boats	1.4
walls, dikes, or revetments	1.2
litter, trash dump, or landfill	0.0
roads or railroad	0.0
row crops	0.0
pasture or hayfield	0.0
orchard	0.0
lawn	1.4
other	0.2

#### **Physical Habitat Characteristics**

station depth (at 10 m from shore)	3.2
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#### **Bottom Substrate (0 = absent, 1 = <10%, 2 = 10-40%, 3 = 40-75%, 4 = >75%)**

bedrock	0.0
boulders	0.0
cobble	1.5
gravel	1.9
sand	0.3
silt	2.5

woody debris 0.8

**Macrophyte Areal Coverage (0 = absent, 1 = <10%, 2 = 10-40%, 3 = 40-75%, 4 = >75%)**

submergent 2.5  
emergent 0.6  
floating 1.5  
total weed cover 3.1

Do macrophytes extend lakeward (-1 = yes, 0 = no) -0.4

**Fish Cover (0 = absent, 1 = Present but sparse, 2 = moderate to heavy)**

aquatic weeds 1.8  
snags 0.1  
brush or woody debris 1.0  
inundated live trees 0.0  
overhanging vegetation 1.2  
rock ledges or sharp dropoffs 0.0  
boulders 0.0  
human structures 1.1

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**Zooplankton Report**

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Date 6/2/1998 Station: 1 2 mLs measured  
Sample ID 19

Number of organisms measured: 98

Group	Percent	Group	Percent
Cladoceran	25.5%	Small < 1mm	98.0%
Copepod	74.5%	Large >= 1mm	2.0%
Other		Ratio of large to Small:	0.02
		Average size (mm):	0.46

Date 6/2/1998 Station: 2 Cyclopoid Copepods with very long term. Setae, ~75% of body length; 1 mL  
Sample ID 7 observed

Number of organisms measured: 76

Group	Percent	Group	Percent
Cladoceran	53.9%	Small < 1mm	71.1%
Copepod	46.1%	Large >= 1mm	28.9%
Other		Ratio of large to Small:	0.41
		Average size (mm):	0.77

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**Aquatic Plant Data**

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Sampler: Parsons, O'Neal

Survey Date: 7/9/1998

Max depth of growth (M): 4

Comments Calm, partly cloudy. Lake treated with sonar June 24, 1998 - plants starting to show some

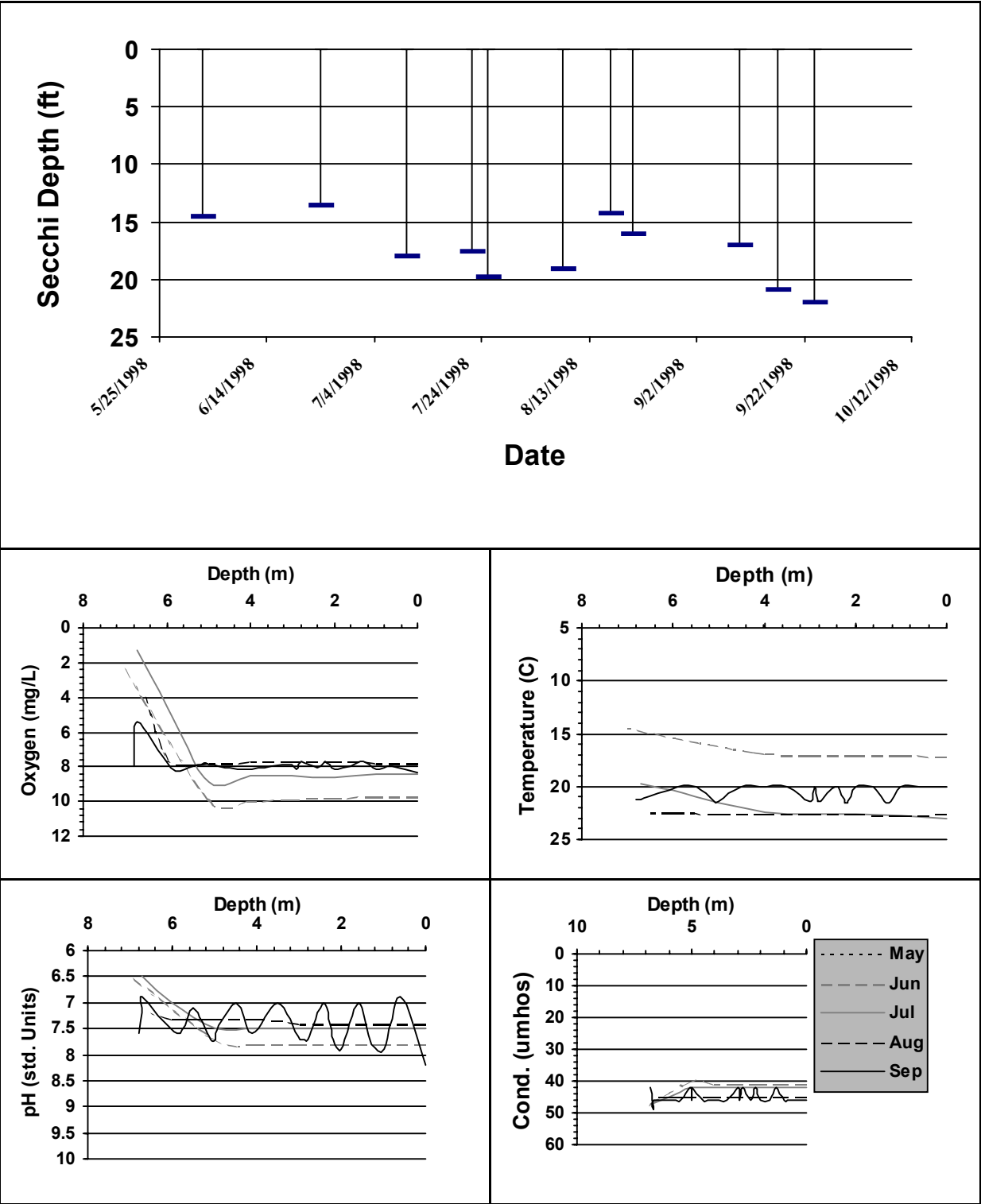
bleaching, especially the *Najas*. Milfoil mostly still not showing signs, a little bright green. Milfoil very dense in many areas, mostly near the boat launch and to the north. East side still just individual plants with occasional dense patches. Bullfrogs heard. Conducted habitat survey for Kirk Smith.

SPECIES LIST			
Scientific Name	Common Name	Dist <sup>a</sup>	Comments
<i>Brasenia schreberi</i>	watershield	3	some dense patches, esp along south shore
<i>Eleocharis sp.</i>	spike-rush	1	
<i>Elodea canadensis</i>	common elodea	2	
<i>Iris pseudacorus</i>	yellow flag	2	
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	4	to 4 m deep
<i>Najas flexilis</i>	common naiad	2	
<i>Nitella sp.</i>	stonewort	2	
<i>Nymphaea odorata</i>	fragrant waterlily	1	one or 2 patches, east shore
<i>Potamogeton amplifolius</i>	large-leaf pondweed	2	
<i>Potamogeton sp (thin leaved)</i>	thin leaved pondweed	1	
<i>Scirpus sp.</i>	bulrush	2	
<div> <div> a 0 - value not recorded (plant may not be submersed)  2 - few plants, but with a wide patchy distribution  4 - plants in nearly monospecific patches, dominant </div> <div> 1 - few plants in only 1 or a few locations  3 - plants in large patches, codominant with other plants  5 - thick growth covering substrate to exclusion of other species </div> </div>			

Secchi Depth and Profile Graphics

Station: 1

ISLMA1



## Secchi Data and Field Observations

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Date	Time	Temp- erature (F)	Secchi (ft)	Color (1-greens, 11-browns	Bright- ness (pct)	Wind (1-none, 5-gusty)	Rainfall (0-none, 5-heavy)	Aesthetics (1-bad, 5- good)	Swimming (1-poor, 5- good)	Geese (#)	Waterfowl (besides geese #)	Boats- Fishing (#)	Boats- Skiing (#)
Station 1													
6/2/1998			14.5	2	100		2	4	1	3	0	0	0
	Sampler: SMITH			Remarks: AQUATIC HERBICIDE ADDED									
6/24/1998		18	13.5	2	75	3	3	5	5	30	0	1	0
	Sampler: YOUNG			Remarks: LAKE WAS RECEIVING A HERBICIDE (SONAR) TREATMENT.									
7/10/1998		20.5	18	2	0	3	1	4	4	25	0	0	0
	Sampler: YOUNG			Remarks:									
7/22/1998		23	17.5	2	0	1	1	5	5	8	0	2	1
	Sampler: YOUNG			Remarks: WARM DAY - MANY SHORE SWIMMERS (EST. 25).									
7/25/1998			19.8	2	0			5	5	0	2	0	1
	Sampler: SMITH			Remarks: 70% OF THE SHORELINE DEVELOPED. CONSTRUCTION ALONG SHORELINE NEAR SITE #2 WITH NO SILT SCREENS. SLIGHT BLUE-GREEN BLOOM. 5 SWIMMERS.									
8/8/1998		23	19	2	0	2	1	5	5	0	0	2	0
	Sampler: YOUNG			Remarks:									
8/17/1998			14.2	3	90	1		4	2	1	0	0	2
	Sampler: SMITH			Remarks: 8-14-98 SONAR TREATMENT FOR MILFOIL. SLIGHT BLUE-GREEN BLOOM.									
8/21/1998		22	16	2	50	2	1	5	5	3	0	1	0
	Sampler: YOUNG			Remarks:									
9/10/1998		22	17	2	0	1	1	5	5	0		0	0
	Sampler: YOUNG			Remarks: MILFOIL DEPRESSED.									



Date	Time	Temperature (F)	Secchi (ft)	Color (1-greens, 11-browns)	Brightness (pct)	Wind (1-none, 5-gusty)	Rainfall (0-none, 5-heavy)	Aesthetics (1-bad, 5-good)	Swimming (1-poor, 5-good)	Geese (#)	Waterfowl (besides geese #)	Boats-Fishing (#)	Boats-Skiing (#)
9/17/1998			20.79	2	60			5	5	2	2	0	0
	Sampler: SMITH			Remarks: FEC #1 TAKEN AT ISLAND SIDE FACING BOAT RAMP. The Conductivity result is qualified as an estimate due to postcalibration failing QA/QC requirements.									
9/24/1998		19.5	22	2	75	3	2	5	5	0	0	1	0
	Sampler: YOUNG			Remarks:									
9/24/1998			22		0					0	0	0	0
	Sampler: BELL-MCKINNON			Remarks:									